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Depth Profiling of the Skin Structure In Vivo

Tech ID: 18884 / UC Case 2002-364-0

BACKGROUND

TECHNOLOGY DESCRIPTION

University researchers have developed a photoacoustic probe contained within a handpiece for use in contact with the skin. The laser pulses generate acoustic waves at the subsurface absorption sites. It is believed that no known use of photoacoustics has been used for this purpose in the past. Previous probes of skin structure include biopsy and histology, and optical and ultrasound measurements. The photoacoustic method provides a non-invasive method, unlike a biopsy. It also is not subject to optical scattering and degradation of the signal, as the signal is acoustic. This method provides higher resolution (possibly 15 mm) than ultrasound. Additionally, unlike ultrasound, it induces the subsurface skin structures to become active acoustic sources depending on their optical properties.

APPLICATIONS

This device may be used in a medical clinic for analyzing melanin content in healthy skin or determining the depth profile of pathological skin conditions such as port wine stains and skin burns.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	7,322,972	01/29/2008	2002-364

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OTHER INFORMATION

CATEGORIZED AS

- » **Imaging**
- » Other

RELATED CASES

2002-364-0



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